position, CPU **40**, hard disk(s) (not shown) and other power consuming components within computer **30** will have entered power saving modes, e.g., operating and using less than 30 watts.

In the above fashion, one or a plurality of client computers **30** may be simultaneously forced to enter a power-on state using address information broadcast by a network server. This is in contrast to the prior art use of a telephone line and modem to dial a dedicated telephone number for a given computer to remotely command the computer to power-on.

FIG. **3** depicts the various method steps used to carry out the present invention. Initially, at method step **300**, it is assumed that **S1** is OFF, and that no DC operating potential is coupled to node **80** of computer **30**.

At step **310**, if switch **S1** is ON (or activated), then at step **350** DC power is coupled to CPU **40** and indeed to computer **30**. If, however, CPU **40** is inactive for 30 minutes as determined by step **360**, Energy Star compliance mandates that, at step **300**, CPU power be interrupted, e.g., **S1** returned to OFF.

Returning to step **310**, even if **S1** is OFF, unit **100** receives operating power and examines incoming address information communicated over line(s) **90**.

Within unit **100**, if a comparison match is found between the incoming address and a bit pattern known to represent a broadcast address commanding a power-on condition, step **330** returns to step **350** and the CPU power is turned ON by activating power control unit **130** via line **120**. However, as noted, user-programmable logic may be provided to override turn-on, even if a broadcast match occurs. As before, at step **360**, after 30 minutes of inactivity, the Star Energy-compliant client will interrupt CPU power at step **300** by causing **S1** to be OFF, and by power control unit **130** to open circuit.

However, if step **330** does not result in a broadcast address match, at step **340** a determination is made by unit **100** to determine whether the incoming address represents an address commanding a power-on condition of this particular computer **30**.

If an address match occurs, then at step **350** power control unit is activated, providing operating DC voltage to computer **30**. However, as noted, user-programmable logic may be provided to override power-on, even if a client address match occurs. Such logic could, if desired, flexibly permit a broadcast address match but not a client address match to cause power-on, or the converse.

If, however, step **340** does not recognize the incoming address, the routine returns to step **300** and computer **30** remains off.

Modifications and variations may be made to the disclosed embodiments without departing from the subject and spirit of the invention as defined by the following claims.

What is claimed is:

1. In a peer-to-peer environment that includes a plurality of members coupled to said environment including a member that broadcasts information to at least one member whose operating voltage is switched off, a method for powering-on the switched off member, the method including the following steps:

providing each said member with an interface coupled to receive said information, at least a portion of said interface receiving operating voltage at all times and including a decoder, a comparator, and a power control unit;

said decoder decoding a first type information included in said information;

said comparator comparing decoded said first type information with at least one stored information pattern representing a power-on condition, said comparator outputting a power-on signal to said power control unit when said stored information pattern matches the decoded said first type information;

said power control unit coupled to provide operating voltage to said switched off member upon receipt of said power-on signal.

2. The method of claim **1**, wherein said interface stores at least a first information pattern representing a subset of members of said environment, and a second information pattern representing a subset of said subset of members of said environment;

wherein said comparator outputs said power-on signal when the decoded said first type information matches either of said first information pattern or said second information pattern.

3. The method of claim **1**, wherein said member is Energy Star complaint, and wherein collectively said decoder and said comparator consume less than 30 watts of operating power.

4. The method of claim **1**, wherein said environment further includes a second member, receiving said information broadcast by the broadcasting member, whose operating voltage is switched-off, said method powering-on each said member;

said second member including a second interface coupled to receive said information, at least a portion of said second network interface receiving operating voltage at all times, said interface including a second decoder, a second comparator, and a second power control unit;

said second decoder decoding said first type information included in said information;

said second comparator comparing decoded said first type information with at least one stored information pattern representing a power-on condition, said second comparator outputting a power-on signal to said second power control unit when said stored information pattern matches the decoded said first type information;

said second power control unit coupled to provide operating voltage to said second member upon receipt of said power-on signal;

wherein each member is powered-on simultaneously when said decoded said first type information matches said stored information pattern.

5. The method of claim **1**, wherein said information includes packets of binary data.

6. The method of claim **1**, wherein said first type information includes binary address information.

7. The method of claim **1**, wherein said comparator includes a hashing algorithm executed within said interface.

8. In a peer-to-peer environment that includes a plurality of members coupled to said environment including one of said members that broadcasts information to at least a first member and a second member, each of said first and second member including an interface, at least of portion of which is operative at all times, each said interface able to store at least one type of information, and having a decoder that decodes at least one type of information, and having a power control unit controllably able to provide operating voltage to the associated said member, each of said first and second member having operating voltage switched off, a method for powering-on at least a chosen one of said first and said second member, the method including the following steps:

storing in each said interface at least one of a first type of information and a second type of information;

causing each said decoder to decode broadcast said information:

causing each said decoder to compare decoded said broadcast information against information stored in said decoder's associated said interface; and

causing said each said power control unit to power-on each said member whose decoder comparison shows a match between information stored in said decoder's associated said interface said first type of information, wherein said first type of information when decoded and successfully compared commands powering-on.

9. The method of claim **8**, wherein said first type of information pattern represents a subset of members of said environment, and said second type of information pattern represents a subset of said subset of members of said environment;

wherein each said comparator outputs said power-on signal when the decoded first type of information matches either of said first information pattern or said second information pattern.

10. The method of claim **8**, wherein each said member is Energy Star complaint, and wherein collectively each said decoder and associated said comparator consume less than 30 watts of operating power.

11. The method of claim **8**, wherein said information includes packets of binary data.

12. The method of claim **8**, wherein said first type information includes binary address information.

13. The method of claim **8**, wherein each said comparator includes a hashing algorithm executed within an associated said interface.

14. In a peer-to-peer environment that includes a plurality of members coupled to said environment and includes a member that broadcasts information to at least one of said members whose operating voltage is switched off, a system for powering-on a switched off said member, the system comprising:

an interface coupled to receive said information, said interface including a decoder, a comparator, and a power control unit, said decoder, comparator and power control unit each receiving operating voltage at all times;

decoder decoding at least a first type of information included in said information;

said comparator comparing decoded said first type information with at least one stored information pattern representing a power-on condition, said comparator outputting a power-on signal to said power control unit when a said stored information pattern matches the decoded said first type information;

said power control unit coupled to provide operating voltage to said switched off member upon receipt of said power-on signal.

15. The system of claim **14**, wherein said interface stores at least a first information pattern representing a subset of members of said environment, and a second information pattern representing a subset of said subset of members of said environment;

wherein said comparator outputs said power-on signal when the decoded said first type of information matches either of said first information pattern or said second information pattern.

16. The system of claim **14**, wherein each said member is Energy Star complaint, and wherein collectively for each interface said decoder and said comparator consume less than 30 watts of operating power.

17. The system of claim **13**, wherein said environment further includes a second member, receiving said information broadcast by the broadcasting member, whose operating voltage is switched-off, said method powering-on each said member;

said second member including a second interface coupled to receive said information, at least a portion of said second network interface receiving operating voltage at all times, said second interface including a second decoder, a second comparator, and a second power control unit;

said second decoder decoding said first type information included in said information;

said second comparator comparing decoded said first type information with at least one stored information pattern representing a power-on condition, said second comparator outputting a power-on signal to said second power control unit when said stored information pattern matches the decoded said first type information;

said second power control unit coupled to provide operating voltage to said second member upon receipt of said power-on signal;

wherein each member is powered-on simultaneously when said decoded said first type information matches said stored information pattern.

18. The system of claim **14**, wherein said information includes packets of digital data.

19. The system of claim **14**, wherein said first type information includes binary address information.

20. The system of claim **14**, wherein said comparator includes a hashing algorithm executed within said interface.

* * * * *

21. A client computer system operable with a network multi-computer system that comprises a plurality of such client computer systems coupled to a network, a server computer system coupled to said network and operable via said network to issue information packets that include address information having a predetermined pattern of bits to at least one of said client computer systems, the client computer system including:

a source of operating power;

a switch unit coupled to said source of operating power and to said client computer system such that operating power is provided to said client computer system in a switch unit ON state but is interrupted in a switch unit OFF state; and

a network interface to connect said client computer system to said network, said network interface comprising a decoder, a comparator, and a power control unit;

wherein when said switch unit is in said OFF state:

said decoder, said comparator, and said power control unit are coupled to a power source;

said network interface is operable to receive said information packets issued by said server computer system;

said decoder is operable to decode said address information included in said information packets;

said comparator is operable to compare decoded said address information with at least one stored pattern of bits held in said network interface, and to output a power signal to said power control unit when a said stored pattern of bits matches the decoded said address information; and

said power control unit is operable to pass operating power from said source of operating power via said network interface to said client computer system upon receipt of the power-on signal when the power control means is in said OFF state;

wherein said sever computer can power on said client computer system when said switch unit for said client computer system is in said OFF state.

22. A client computer system according to claim 21, wherein:

responsive to a power-on signal said switch unit is operable to supply full power to said client computer system whether said switch unit is in said OFF state with said client computer system in a power off mode, or is in said ON state with said client computer system in a low-power mode.

23. A client computer system, according to claim 21, wherein said network interface consumes less than 30 watts operating power when said client computer system is in a power off mode.

24. A client computer system according to claim 21, wherein said comparator comprises a hashing mechanism.

25. A client computer system according to claim 21, where said comparator comprises register comparator logic hardware.

26. A client computer system according to claim 21, wherein:

said at least one stored pattern of bits held in said network interface includes at least a first pattern of bits representing a broadcast address and a second pattern of bits representing a client address; and

said comparator outputs a power-on signal when decoded said address information matches one of said first pattern of bits and said second pattern of bits.

27. A client computer system according to claim 21, wherein:

said power control unit is selected from a group consisting of a (i) power control integrated circuit, and (ii) a MOSFET switch.

28. A client computer system according to claim 21, wherein said network interface is provided on a card.

29. A method of powering on at least one client computer system in a networked multi-computer system that includes a server computer system coupled to said network and includes a plurality of such client computer systems coupled to said network where each client computer system includes a source of operating power, a switch unit coupled to said source of operating power and to said client computer system such that operating power is provided to said client computer system in a switch unit ON state but is interrupted in a switch unit OFF state, and a network interface to connect said client computer system to said network, said network interface comprising a decoder, a comparator, and a power control unit; wherein, when said switch unit is in said OFF state said decoder, said comparator, and said power control unit are coupled to a source of operating power, the method comprising the following steps:

(a) said network interface of a client computer system coupled to said network receiving, at a time when said switch unit of said client computer system is in said OFF state, an information packet including address information having a predetermined pattern of bits and issued by said server computer system to said network;

(b) said decoder of said client computer system decoding said address information included in said information packets;

(c) said comparator of said client computer system comparing said decoded address information with at least one stored pattern of bits held in said network interface, and outputting a power-on signal to said power control unit when a said stored pattern of bits matches said decoded address information; and

(d) said power control unit of said client computer system passing operating power from said source of operating power via said network interface to said client computer system upon receipt of said power-on signal when said switch unit is in said OFF state;

whereby said server computer is able to power on a predetermined client computer system when said switch unit of said predetermined client computer system is in said OFF state.

30. The method of claim 29, wherein said power control unit is operable to supply full power to said client computer system responsive to said power-on signal irrespective of whether said power control means is in the OFF state with the client computer system power off, or in the ON state with the client computer system in a low-power mode.

31. The method of claim 29, wherein at least one stored pattern of bits held in said network interface includes at least a first patten of bits representing a broadcast address and a second pattern of bits representing a client address, and saod comparator outputs said power-on signal when said decoded address information matches one of said first pattern of bits and said second pattern of bits.

32. The method of claim 29, wherein said server computer system issues a message packet including a broadcast address information, and at least two client server systems receive power from their respective power control units when decoded said broadcast address information matches at least one said stored pattern of bits.